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Number 53

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<u>Title</u>	<u>Issue</u>	<u>Date</u>
"Arkhir Patologii" (Archive of Pathology) Cards 61-68	No 6	Nov/Dec 1947
"Comptes Rendus de l'Academie des Sciences de l'URSS, Nouvelle Serie" (Reports of the Academy of Sciences of the USSR, New Series)* Cards 20-22, 26, 36-38, 69, 70, 87	Vol LV No 4	Feb 1947
"Doklady Akademii Nauk SSSR, Novaya Seriya" (Reports of the Academy of Sciences of the USSR, New Series)* Cards 18, 34, 46-58, 86, 88-91	Vol LVII No 4	Aug 1947
"Doklady Akademii Nauk SSSR, Novaya Seriya" (Reports of the Academy of Sciences of the USSR, New Series)* Cards 19, 28-33, 41-45, 59, 60, 93, 94	Vol LVII No 9	Sep 1947
"Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk" (News of the Academy of Sciences of the USSR, Department of Chemical Sciences)* Cards 1-11	No 5	Sep/Oct 1947
"Khimicheskaya Promyshlennost'" (Chemical Industry) Cards 12-17	No 12	Dec 1947
"Priladnaya Matematika i Mekhanika" (Applied Mathematics and Mechanics)* Cards 27, 92	Vol XI No 5	Oct 1947
"Trudy Instituta Geologicheskikh Nauk" (Works of the Institute of Geological Science) Card 35	No 79	Oct 1947
"Trudy Tsentral'nogo Ordona Lenina Nauchno-Issledovatel'skogo Instituta" (Works of the Central Order of Lenin Scientific Research Institute) Cards 82-85	No 2	1947
"Uspekhi Fizicheskikh Nauk" (Progress of Physical Sciences) Cards 24, 39, 95-97	Vol XXXIII No 4	Dec 1947
"Vestnik Leningradskogo Universiteta" (Herald of Leningrad University) Cards 23, 40, 78-81	No 12	Dec 1947
"Voyenno-Meditsinskiy Zhurnal" (Military Medical Journal) Cards 25, 71-77	No 11	Nov 1947

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NOTE

In indexing these abstracts the following guides are used: MEDICINE - "Quarterly Cumulative Index Medicus," American Medical Association; CHEMISTRY - "Chemical Abstracts Subject Index," American Chemical Society; GENERAL - "Subject Headings for Technical Libraries," US Department of Commerce, Office of Technical Services.

Distribution

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CIA	16
FDB	<u>20</u>
Total	102

FDB Periodical Abstracts Scientific No 53		REPRODUCED	
USSR/Chemistry - Academy of Sciences	Sep/Oct 1947	USSR/Chemistry - Phosphoric Acid	Sep/Oct 1947
"Chronicle" 2 pp		Chemistry - Ethers, Ethyl	
"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5		"The Action of α -Bromonitrohydrocarbons on the Ethyl Ether of Phosphorous Acid," A. E. Arbuzov, B. A. Arbuzov; B. P. Lugovkin, Chem Sci Res Inst imeni A. M. Butlerov, Kazan State U, 3 pp	
Reports meeting of the Department of Chemical Sciences, Academy of Sciences USSR, held in Leningrad on 24-28 May 1947. Meeting opened by secretary of department, Academician A. N. Nesmeyanov, and reports read by Professors S. A. Shchukarev, A. F. Kapustinskiy, A. I. Brodskiy, A. N. Frumkin, and others.		"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5	
Contains experimental data and results, and shows that in each case where bromonitromethane, α -bromonitroethane and α, α -dibromophenylnitromethane acts on the ethyl ether of phosphorous acid, the result is triethylphosphate.			
FDB	53T1	FDB	53T2
USSR/Chemistry - Aromatic Compounds	Sep/Oct 1947	USSR/Chemistry - Phosphorus	Sep/Oct 1947
Chemistry - Catalysts		Chemistry - Organic Compounds	
"Investigation of the Reaction of the Catalytic Substitution of Haloid for Hydroxyl in the Aromatic Series, III," L. Kh. Freydlin, A. A. Balandin, A. I. Lebedeva, G. A. Fridman, Inst Org Chem, Acad Sci USSR, 8 pp		"Investigations in the Field of Phosphoorganic Compounds, VII," P. A. Rossiyskaya, M. I. Kabachnik, Inst Org Chem, Acad Sci USSR, 6 pp	
"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5		"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5	
Studies activating action of copper and describes discovery of new method of regenerating silica gel deactivated by mineral impurities.		Studies reaction of glycol with trichloride of phosphorous and Menshutkin's acid chlorides, and shows that cyclic glycol esters are formed during reaction.	
FDB	53T3	FDB	53T4
USSR/Chemistry - Hydrogenation	Sep/Oct 1947	USSR/Chemistry - Hydrogenation	Sep/Oct 1947
Chemistry - Hydrocarbons		Chemistry - Hydrocarbons	
"Catalytic Hydrogenation of Cyclopentanic Hydrocarbons When the Cycle Is Interrupted, IX," B. A. Kazanskiy, Z. A. Rumyantseva, M. I. Batuyev, Inst Org Chem, Acad Sci USSR, 10 pp		"Catalytic Hydrogenation of Cyclopentanic Hydrocarbons When the Cycle Is Interrupted, VIII," B. A. Kazanskiy, Z. A. Rumyantseva, M. I. Batuyev, Inst Org Chem, Acad Sci USSR, 10 pp	
"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5		"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5	
Discusses hydrogenation of 1, 1-dimethylcyclopentane in presence of platinized carbon.		Discusses hydrogenation of trans 1, 2- and trans 1, 3-dimethylcyclopentane in presence of platinized carbon.	
FDB	53T5	FDB	53T6
USSR/Chemistry - Parachors	Sep/Oct 1947	USSR/Chemistry - Heat of Formation	Sep/Oct 1947
Chemistry - Esters		Chemistry - Salts	
"Parachors and the Structure of Phosphoric Acid, Phosphorous Acid and Phosphinous Acid Esters," B. A. Arbuzov, V. S. Vinogradova, Sci Res Inst imeni A. M. Butlerov, Kazan State U, 13 pp		"Thermochemical Radii of Ions and the Heat at Which Salts Are Formed," K. B. Yatsimirskiy, Inst Genl and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, 4 1/2 pp	
"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5		"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5	
Includes data on measurements of parachors of 13 esters of phosphoric, phosphorous and phosphinous acids, and compares them with parachors calculated by Mumford and Phillips and Samuel methods of group values.		Amplifies data on the so-called "thermochemical ion radii," and obtains values for eleven anions. These values in turn used to obtain revised values for heat at which 110 salts are formed.	
FDB	53T7	FDB	53T8

RESTRICTED	FDB Periodical Abstracts Scientific No 53	RESTRICTED	
USSR/Chemistry - Methanes Chemistry - Benzene	Sep/Oct 1947	USSR/Chemistry - Biography Chemistry - Bibliography	Sep/Oct 1947
"Chemical Compounds of Benzene With Haloid-Substituted Methane," A. F. Kapustinskiy, S. I. Drakin, Moscow Chem Tech Inst imeni D. I. Mendeleev, 8 pp		"Nikolay Aleksandrovich Morozov as a Chemist," S. I. Vol'fkovich, 11 pp	
"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5		"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5	
Describes study by thermal analysis of systems consisting of benzene and chloro- and bromo-, and iodo-substituted methanes. Existence of hitherto unknown molecular compounds, some of which were isolated in crystalline form, established.		Describes Morozov's contributions to science during his lifetime (born 1854, died 30 Jun 1946) and includes brief reviews of some of his books.	
FDB	53T9	FDB	53T10
USSR/Chemistry - Allyl Groups Chemistry - Esters	Sep/Oct 1947	USSR/Chemistry - Synthesis	Dec 1947
"Allyl Regroupings," A. N. Pudovik, B. A. Arbuzov, Kazan' State U, 8 pp		"Soviet Organic Synthetics Industry for Thirty Years," Prof A. N. Planovskiy, Dr Tech Sci, 4 1/2 pp	
"Izv Akad Nauk SSSR, Otd Khim Nauk" No 5		"Khim Prom" No 12	
Describes action of sodium and magnesium malonic esters on isomeric methoxychloropentanes, and shows that reaction of esters with a secondary chloride gives same products as with a primary chloride.		Briefly describes some of more important advances made during past 30 years in organic synthetics industry, one of most important branches of chemical industry in present-day USSR. Said industry possible because of large crude oil and fuel production.	
FDB	53T11	LC	53T12
USSR/Chemistry - Education	Dec 1947	USSR/Chemistry - Dyes Chemistry - Intermediates	Dec 1947
"Thirty Years of Higher Chemical Technological Activity in the USSR," D. A. Troitskiy, Ministry Higher Education USSR, 4 pp		"Institute of Intermediate Organic Products and Dyestuffs imeni K. Ye. Voroshilov," A. I. Korolev, Acting Dir, Inst Sci Matters, 3 pp	
"Khim Prom" No 12		"Khim Prom" No 12	
Describes remarkable advances of higher educational institutions in USSR for past 30 years. At present time 31 million people attend intermediate schools. Fairly comprehensive account of operations of Moscow Chemical Technological Institute imeni D. I. Mendeleev and the institutes in various republics.		In 1915 Action Committee started first Russian dye factory, beginning of present day Institute. First named the Institute for Intermediate Organic Products and Dyestuffs in 1931. Mentions scientists currently employed in discovering new methods for increasing technical knowledge in field of dyestuffs and paints.	
LC	53T13	LC	53T14
USSR/Chemistry - Nitrogen	Dec 1947	USSR/Chemistry - Academy of Sciences	Dec 1947
"State Institute of the Nitrogen Industry," B. P. Samarin, Chief Engr, 2 pp		"Physical Chemical Institute imeni L. Ya. Karpov," N. M. Zhavoronkov, Dir, Inst, 5 pp	
"Khim Prom" No 12		"Khim Prom" No 12	
Founded in 1916, by 1926 institute was synthesizing ammonia. Briefly mentions its development since 1926 showing how it increases technical knowledge in Soviet Russia with respect to ammonia production and develops many new useful organic compounds. Two photographs show the compressor plant at nitrogen factory.		One of first scientific chemical institutions, Central Chemical Laboratory VSNKh is now Physical Chemical Institute imeni L. Ya. Karpov. Briefly describes development of institute, its basic scientific attainments, and staff. Present task is improvement of personnel serving in scientific institutions of USSR.	
LC	53T15	LC	53T16

RESTRICTED		FDB Periodical Abstracts Scientific No 53		RESTRICTED	
USSR/Chemistry - Development		Dec 1947		USSR/Chemistry - Phosphoric Acid Chemistry - Synthesis	
"State Institute of Applied Chemistry," B. P. Arta- monov, Dep Dir Sci, 2 pp				Aug 1947	
"Khim Prom" No 12				"Synthesis of Diphosphondialkyl Esters," B. A. Arbuzov, Corr Mem Acad Sci USSR; N. P. Grechkin, Chem Inst, Kazan Br, Acad Sci USSR, 3 pp	
First scientific research chemical institute of the Soviet Union, established 1919, known as the Russian Institute of Applied Chemistry. Briefly outlines its development to its present-day prominence in field of chemistry. Photograph shows general view from a river, showing part of the institute.				"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	
				Gives data collected during studies on synthesis of diphosphondialkyl esters, and, in particular, tri- phosphonalkyl esters usually found in compounds such as $R_2Sn Hal_2$ or $RSnHal_3$ with complete phosphoric acid esters. Submitted, 14 May 1947.	
LC	53T17	FDB	53T18		
USSR/Chemistry - Kaolinite		Sep 1947		USSR/Chemistry - Oxonium Compounds	
Chemistry - Crystalline Structure				Chemistry - Esterification	
"The Crystalline Structure of Kaolinite," V. N. Vert- sner, G. O. Bagdyk'yants, Z. G. Pinsker, State Optical Inst, and Inst Geochem and Analytic Chem imeni Acad V. I. Vernadskiy, Acad Sci USSR, 34 pp				"Formation of Oxonium Compounds From Alcohols and Sulfuric Acid During the Esterification Process and the Study of Their Viscosity," V. V. Chelintsev, Corr Mem, Acad Sci USSR, 4 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9				"CR Acad Sci" Vol LV, No 4	
Describes results obtained in electronographic studies of kaolinite. Photographs made by means of electron microscope produced by State Optical Institute. Ad- vantage of electronographic method is permits obtain- ing of data supplementary to data obtained by means of electron-microscope. Authors express gratitude to				Under action of concentrated sulfuric acid on alco- hols latter gradually undergo esterification but, by titrating at certain intervals that acid which has not entered reaction, it may be seen that this proc- ess does not start at once. Author has found, by thermochemical determination, that as soon as alco-	
FDB	53T19	FDB	53T20		
USSR/Chemistry - Kaolinite (Contd)		Sep 1947		USSR/Chemistry - Oxonium Compounds (Contd)	
Academician A. A. Lebedev. Submitted by latter, 11 Mar 1947.				Feb 1947	
				hols and sulfuric acid are mixed a considerable amount of heat is evolved. This occurs very abrupt- ly, after which temperature of mixture decreases and continues very low when esterification process actu- ally begins. Phenomenon can be explained by forma- tion of oxonium compounds from alcohols and sulfuric acid.	
FDB	53T19	FDB	53T20		
USSR/Chemistry - Nitrogen Fixation		Feb 1947		USSR/Chemistry - Adsorption	
Chemistry - Azotobacter				Chemistry - Charcoal, Activated	
"Fixation of Atmosphere Nitrogen by Azotobacter as Affected by Substances Entering Into Reaction With the Nitrogen Fixation Catalyst as a Base," M. V. Fedorov, Timiriazev Agric Acad, Moscow, 4 pp				"The Characteristic Curve Equation for Active Char- coals," M. M. Dubinin, Mem, Acad Sci USSR; L. V. Radushkevich, Lab Sorption Processes, Inst Phys Chem, Acad Sci USSR, 3 pp	
"CR Acad Sci" Vol LV, No 4				"CR Acad Sci" Vol LV, No 4	
Cations of heavy metals have an inhibitory effect on fixation of atmospheric nitrogen by azotobacter, even though present at relatively low concentrations. In- hibitory influence seems to be due to the fact that the disperseness of the nitrogen fixation catalyst is affected by them through its interaction with carboxyl				Relation of adsorption potential to distance from surface of adsorbent can be deduced analytically in simple cases, and cannot be used for industrial ad- sorbents which are porous bodies of complex struc- ture. Polanyi's theory suggests use of characteris- tic curve of adsorbent. Authors attempt to describe	
FDB	53T21	FDB	53T22		

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USSR/Chemistry - Nitrogen Fixation (Contd) Feb 1947	USSR/Chemistry - Adsorption (Contd)	Feb 1947
<p>group. Author has attempted to determine influence of those compounds able to enter into reaction with catalyst as a base in nitrogen fixation. Results showed that amino group of nitrogen fixation catalyst, through which all the substances here discussed are likely to react, does not participate directly in fixation of atmosphere nitrogen. Submitted by A. A. Rikhter, 4 Aug 1946.</p>	<p>these curves by a well-founded equation, in case of porous bodies, especially active charcoals. Submitted, 9 Dec 1946.</p>	
FDB	53T21	FDB
<p>USSR/Electricity Hydroelectric Plants Hydrology</p>	Dec 1947	53T22
<p>"Forecasting the Status of the Water Reservoir System of the Bol'shaya River," I. V. Baranov, Sr Sci Collaborator, 182 pp</p>		<p>USSR/Electronics Electrons - Emission Ions</p>
<p>"Vest Leningrad Universitet" No 12</p>		<p>"Soviet Electronics for Thirty Years," S. Yu. Luk'yanov, 21 pp</p>
<p>Presents data collected 1939-1940 by party that attempted to forecast status of two water reservoir systems in vicinity of Kurakhov Hydroelectric Station. Success of forecast enabled station to be completed and put into operation 8 Apr 1947, when one 50 thousand kw turbine generator was started. Discusses</p>		<p>"Uspekhi Fiz Nauk" Vol XXXIII, No 4</p>
LC	53T23	LC
USSR/Electricity (Contd)	Dec 1947	<p>USSR/Engineering Machinery - Construction Efficiency, Industrial</p>
<p>general characteristics of water bodies; temperature, oxygen regimes; reaction of the water (pH); biochemical use of oxygen (BPK), organic content; Ternov water reservoir; mineral content of Bol'shaya River water; and seasonal variations in mineral content of waters of Ternov and Il'inskiy water reservoirs.</p>		<p>"The Thirtieth Anniversary of the Great October Revolution" 9 pp</p>
LC	53T23	LC
<p>USSR/Engineering Explosion Measurements Shock Waves</p>	Feb 1947	<p>Nov 1947</p>
<p>"The Flow of Detonation Products in the Case of an Inclined Detonation Wave," K. P. Staninkovich, 4 pp</p>		<p>business without blundering so characteristic of capitalistic nations.</p>
<p>"CR Acad Sci" Vol LV, No 4</p>		
<p>Mathematical consideration of a plane detonation wave reaching plane surface of the charge at an angle. Such a wave is termed inclined. Exact solutions of gas dynamic equations may be obtained for determination of parameters of detonation products scattered from surface layers. Submitted by A. A. Blagenravov, 13 Jul 1946.</p>		
FDB	53T26	LC
		53T25

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USSR/Engineering Casings Mathematics, Applied		Oct 1947	USSR/Engineering Engines Waves, Ocean		Sep 1947
"Two Ideas on Equations for Spherical Casings," V. Z. Vlasov, Inst Mechanics, Acad Sci USSR, 6 pp			"New Wave Engine," V. S. Sidorenko, 3½ pp		
"Priklad Matematika i Mekhanika" Vol XI, No 5			"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9		
Gives details of calculations leading to establishment of two basic equations for spherical casings.			Describes model "wave turbine" made in laboratory (scale 1:50). "Wave turbine" utilizes surges of sea to transmit energy by a system of trunnions, blocks, and tackle. States that scale model able to lift 1,722-gram weight distance of one meter in 24 seconds. After compensating for friction, actual load weight only 823 grams. Submitted by Academician A. V. Vinter, 17 Mar 1947.		
FDB		53T27	FDB		53T28
USSR/Geological Prospecting Oil		Sep 1947	USSR/Geology Structural Analysis		Sep 1947
"The Structure of Oil-Bearing Rock and Its Permeability," P. P. Avdusin, M. A. Tsvetkova, Inst Mineral Substances, Acad Sci USSR, 3 pp			"Pliocene Sedimentation and Recent Movements in the Tannu-Ola Mountain Range," N. S. Zaytsev, 4 pp		
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9			"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9		
Discusses structure of oil-bearing rock and gives reasons for formation of hollows within rock. Mass of liquid hydrocarbons contained within rock is factor in determining oil-bearing content of rocks. Submitted by Academician S. I. Mironov, 8 Mar 1947.			Studies during 1946 resulted in data showing that relief of Tubinsk part of Tuva region had been formed by fairly recent movements. Author presents facts leading to this conclusion. Submitted by Academician D. S. Belyankin, 8 Mar 1947.		
FDB		53T29	FDB		53T30
USSR/Geological Prospecting Petroleum		Sep 1947	USSR/Geology Sediment		Sep 1947
"The Transfer in the Sakmarsk Layer," V. Ye. Ruzhentsev, Paleontological Inst, Acad Sci USSR, 4 pp			"Bathyal Sediments in the Sakmarsk and Artinsk Deposits in the Bashkir Pre-Urals," I. V. Khvorova, Paleontological Inst, Acad Sci USSR, 3 pp		
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9			"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9		
Describes some of characteristics of animal and plant remains in Assel'sk, Kurman, and Kasmar horizons. Data collected by Bashkir Petroleum Expedition of Academy of Sciences. Data also collected in Ural River and Sakmar River basins. Submitted by Academician V. A. Obruchev, 19 Mar 1947.			Reports results of studies conducted on bathyal sediments of Sterlitamaksk region, where several shafts were sunk. States that sediments and fauna of depression type are of bathyal sea origin. Submitted by Academician V. A. Obruchev, 19 Mar 1947.		
FDB		53T31	FDB		53T32
USSR/Geology Hydrology Petroleum		Sep 1947	USSR/Geological Prospecting Iron Ore Cobalt		Aug 1947
"Reduction of Sulfates in the Grozniy Petroleum Fields," N. T. Lindtrop, All-Union Petroleum Sci and Res Geol Survey Inst, 4 pp			"Regularities of Cobalt Formation in the Pokrovsk Iron Ore Deposits (Northern Urals)," M. A. Karasik, Mining Geol Inst, Ural Br, Acad Sci, 3 pp		
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9			"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4		
Great variations noticed in sulfate content of water obtained in bores of eastern pre-Caucasian oil fields. Other wells revealed complete absence of sulfide waters. Data collected in 5-month period shows sulfate radical of waters of Novo Grozniy oil fields completely replaced by carbonate radical. Experiments made on			Presents new data on cobalt-bearing capacity of above-mentioned deposits obtained during period 1944-1945. Discusses mineralogy and assumptions made concerning regularities in distribution of sulfides and arsenides in skarn zone. Submitted by Academician V. A. Obruchev, 25 Jan 1947.		
FDB		53T33	FDB		53T34

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USSR/Geology (Contd)	Sep 1947	USSR/Geological Prospecting Coal
two fields of XI area Oktyabr'sk region of GrozNef't. Submitted by Academician S. I. Mironov, 4 Mar 1947.		Oct 1947
		"The Lower Rock Coal Deposits of Rock and Anthracite Coal of the Southern Urals," A. A. Petrenko, 175 pp
		"Trudy Inst Geol Nauk" No 79, Coal Series No 1
		Entire book is description of lower coal deposits of southern Urals. Discusses general status and geographical location, stratigraphy, tectonics, coal-bearing capacity, and general hopes and future developments of following coal deposits: Ber-Chogur, Dombarovsk, Bredinsk, Poltav, Borodin, Il'yas, Nizhe-Dzuusinsk, and Ziren'-Agacha. One chapter discusses coal resources of eastern slopes of southern Urals,
FDB	53T33	LC
USSR/Geological Prospecting Coal	Feb 1947	USSR/Geological Prospecting (Contd)
"Certain Regularities Observed When Studying Coal and Their Practical Significance," I. A. Khrizman, A. S. Bykovskiy, 4 pp		Oct 1947
"CR Acad Sci" Vol LV, No 4		and mentions deposits of Suvunduk-Akdzhar belt, Urus-Kiskan belt, Pritobol'sk belt, Verkhneuvel'sk belt of coal rock, and Koyelgin belt. Chapter ten evaluates coal deposits mentioned. Last chapter discusses formation of coal-bearing layers of eastern slopes of southern Urals. Mentions possible coal deposits at Dokarbonov and East-Ural coal basin.
While searching for method to check analytical data determining calorific value of coal, authors discovered functional relation between calorific value and combustible mass was specific for each coal deposit. To clarify this relationship authors used materials from Central Laboratory of Bashkir Geological Administration obtained from tests of following brown-coal de-		
FDB	53T36	LC
USSR/Geological Prospecting (Contd)	Feb 1947	USSR/Geology Geological Prospecting
posits: Alsheyevskoye, Zilimskoye, Krivlevskoye, Kuyurgazinskoye, Staro-Mikhailovskoye, Surakaiskoye, Talalayevskoye, Ushkatlinskoye, including data from Donets basin, etc. Presents results graphically. Submitted by P. I. Stepanov, 16 Sep 1946.		Feb 1947
		"The Application of the Correlation Coefficient to the Study of the Paragenesis of Minerals in Terrigenous Sediments," A. B. Vistelius, V. T. Belousova, All-Union Sci Res Inst Petroleum, Leningrad, 3 pp
		"CR Acad Sci" Vol LV, No 4
		Studies of paragenesis of minerals in terrigenous deposits reveal importance of relationship between minerals. Suggests employing correlation coefficient "r" as one of the simplest measures of this relationship. Research data supplied by analyses of heavy fractions of samples from Kemian and Yasherian
FDB	53T36	FDB
USSR/Geology Rock Formation	Feb 1947	USSR/Geology (Contd)
"The Process of Gravitational Consolidation of Argillaceous Rocks as Affected by Their Cohesiveness," N. I. Denisov, Kuybyshev Engin Inst, Moscow, 4 pp		Feb 1947
"CR Acad Sci" Vol LV, No 4		strata of Middle Devonian deposits of Leningrad region. Results prove advantages of analytical methods and value in geological work. Submitted by F. P. Savarenskiy, 6 Jul 1946.
Considers data available on state of recent argillaceous sediments forming in lakes, seas, river valleys and other bodies of water, to clarify conditions under which argillaceous rocks are formed. Adequate knowledge of nature of resistance to shear in fully formed compact argillaceous rocks cannot be gained without a clear idea of role played by cohesion in this process. Submitted by D. S. Belyankin, 25 Sep 1946.		
FDB	53T38	FDB
		53T37

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USSR/Geophysics Ionosphere Nitrogen		Dec 1947		USSR/Geophysics Atmosphere Ionization	
"Infrared Illumination of Night Skies and the Dissociation of Nitrogen in the Ionosphere," I. A. Khvostikov, 31 pp				"Extended and Temporary Variations in the Electrical Fields of the Atmosphere," Prof P. N. Tverskoy, 18½ pp	
"Uspekhi Fiz Nauk" Vol XXXIII, No 4				"Vest Leningrad Universitet" No 12	
Discusses discovery of new emissions; determination of wave lengths of new emissions; atomic nitrogen; results obtained by Dufay, Bernard, and Kaplan; discussions of Dufay and Bernard; spectrums of northern lights of low latitudes; true nature of the emissions of forbidden lines; dissociation of nitrogen in upper				States two unanswered questions concerning electric fields in atmosphere: 1) why has the earth taken on a negative charge, and 2) what causes ionization of atmosphere. Presents data collected over several years to clarify problems in connection with above-mentioned questions.	
LC	53T39	LC	53T40		
USSR/Geophysics (Contd)		Dec 1947		USSR/Mathematics	
layers of atmosphere; degree of dissociation of nitrogen molecule in field of northern lights; emissions of atomic nitrogen; identification of infrared illumination of night skies; and band (0.0) of first positive system of nitrogen.				Sep 1947	
LC	53T39			"The Order of Groups of Movements in Spaces of Affine Compendency," I. P. Yegorov, 4 pp	
USSR/Mathematics		Sep 1947		"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9	
"The Proper Significance of the Nonlinear Fully-Continuous Operation of Hilbert's Space," E. S. Tsitlanadze, 3 pp				In 1903, Fubini stated that extended spaces n of measurements do not have full groups of movements of the order $\frac{n(n-1)}{2} - 1$. Author proves that corresponding theorem of Fubini in extended spaces holds in affine spaces. Submitted by Academician A. N. Kolmogorov, 24 Mar 1947.	
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9				FDB	
Discusses six additional lemmas dealing with nonlinear operation L , developed by means of Fresh's differential (relation). Brief reference made to similar work by Lyusternik, Sobolev, and Lichtenstein. Submitted by Academician A. N. Kolmogorov, 1 Apr 1947.				53T41	
FDB	53T42			USSR/Mathematics - Geometry Mathematics - Surfaces	
USSR/Mathematics - Series		Sep 1947		Sep 1947	
"On Dirichlet's Absolutely Convergent Series," Ya. A. Tagamlitskiy, 4 pp				"Method of Combining in the Theory of Surfaces," A. D. Aleksandrov, Corr Mem, Acad Sci USSR, Math Inst, imeni V. A. Steklov, Acad Sci USSR, 3 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9				"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9	
Demonstrates necessary and sufficient conditions for absolute convergence of the following infinite series of Dirichlet: $f(x) = \sum A_n \cdot \exp(-k_n x)$ where $k_1 < k_2 < k_3 < \dots$. Submitted by Academician S. N. Bernsh-teyn, 1 Aug 1947.				Presents series of theorems and theories dealing with process of constructing geometric figures by cementing together other figures. Process is old as geometry itself, nevertheless still need for theoretical work. Submitted, 23 Jun 1947.	
FDB	53T44			FDB	
USSR/Mathematics - Transformations Mathematics - Function Theory		Sep 1947		53T43	
"The Range of Finite Functions and Laplace's Transformations," A. Povzner, 4 pp				USSR/Mathematics - Transformations Mathematics - Function Theory	
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9				Sep 1947	
Explains functions of $L_F(z) = \int_0^\infty \exp(izt) \cdot F(t) dt$.				"The Range of Finite Functions and Laplace's Transformations," A. Povzner, 4 pp	
States that results obtained are similar to those of T. Carleman. Submitted by Academician S. N. Bernsh-teyn, 20 Mar 1947.				"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9	
FDB	53T45			Explains functions of $L_F(z) = \int_0^\infty \exp(izt) \cdot F(t) dt$.	

RESTRICTED	FDB Periodical Abstracts Scientific No 53	RESTRICTED
USSR/Mathematics - Geometry, Differential 1947	USSR/Mathematics - Groups, Transformation 1947	
"On the Basic Lines in a Surface," N. G. Tuganov, 4 pp	"Calculation of the Coefficients in the Formula of Campbell-Hausdorff," Y. B. Dynkin, Inst Math, Moscow State U imeni M. V. Lomonosov, 4 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	
General discussion of differential geometry of surface lines. Submitted by Academician N. N. Luzin, 18 Jan 1947.	Exponential and logarithmic expansions form basis for subject calculation. Submitted by Academician A. N. Kolmogorov, 2 Feb 1947.	
FDB 53T46	FDB 53T47	
USSR/Mathematics - Functions, Approximation of 1947	USSR/Mathematics - Functions 1947	
"On the 'Suspended' Approximation, by Means of Polynomials, of Functions Continuous on the Entire Number Axis," N. I. Akhiezer, K. I. Babenko, 4 pp	"On the Differentials of Complicated Functions," M. S. Areshev, 3 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	
Gives brief mathematical discussion of succession of functions approaching the function in question, when satisfying certain limitations. Submitted by Academician S. N. Bernshteyn, 30 Jan 1947.	On the basis of well-known Leibnitz rule for successive differentiation of a function of K variables $d^n f = \left(\frac{\partial f}{\partial x}; \text{summed} \right)^{(n)}$ an analogous method is formed for the n -th derivative of a complicated function of one variable: $\frac{d^n f}{dx^n}$. Submitted by Academician A. N. Kolmogorov, 4 Apr 1947.	
FDB 53T48	FDB 53T49	
USSR/Mathematics 1947	USSR/Mathematics 1947	
"On the Theorem of L. S. Pontryagin Concerning the 'Removal' of the Cycle," A. I. Tsvetkova, Sci Res Inst Math, Moscow State U imeni M. V. Lomonosov, 4 pp	"On Closed Reflections of Metric Spaces," I. A. Vaynshteyn, Sci Res Inst Math, Moscow State U imeni M. V. Lomonosov, 4 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	
Present article is a generalization of the subject problem. Submitted by Academician I. G. Petrovskiy, 6 Feb 1947.	Gives group of eight theorems on subject. Submitted by Academician A. N. Kolmogorov, 15 May 1947.	
FDB 53T50	FDB 53T51	
USSR/Mathematics, Applied Aug 1947	USSR/Medicine - Marine Organisms Aug 1947 Medicine - Taxonomy	
"Nonlinear Systems in Varying Parameters," I. T. Turbovich, Energetics Inst imeni G. M. Krzhizhanovskiy, Acad Sci USSR, 2 pp	"Siberian Marine Asellidae," Ya. A. Birshteyn, Sci Res Inst Zool, Moscow State U imeni M. V. Lomonosov, 4 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4	
Describes nonlinear quasi-conservative systems with one order of freedom, and function which determines relation of time to parameters. Describes accumulation of energy and fluctuation amplitude and their relation to time. Submitted by Academician A. N. Kolmogorov, 28 Jan 1947.	Brief description of three new types of Asellus found in Siberian waters, in vicinity of Lena River mouth and Tsipo-Tsipikanskiye Islands: 1) Asellus (s.str.) latiformis n.sp., 2) Asellus (s.str.) epomeralis n.sp., and 3) Asellus (s.str.) hilgendorffi martynovi n.subsp. Submitted by Academician I. I. Shmal'-gauzen, 11 Feb 1947.	
FDB 53T52	FDB 53T53	

RESTRICTED		FDB Periodical Abstracts Scientific No 53		RESTRICTED			
USSR/Medicine - Chromosomes Medicine - Flies		Aug 1947		USSR/Medicine - Plants Medicine - Poisons		Aug 1947	
"Fission of the X-Chromosome Chains of the Drosophila Melanogaster of Different Lineages," B. N. Sidorov, Inst Cytology, Histology, and Embryol, Acad Sci USSR, 3 pp				"Resistance of Leaves of Dicotyledonous Plants to Poisons," V. N. Naugol'nykh, Molotov State U imeni A. M. Gor'kiy, 4 pp			
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4				"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4			
Brief description of results of experiments conducted to explain process of crossing over and conjugation using Y and X-chromosomes. Submitted by Academician L. A. Orbeli, 22 Feb 1947.				Describes results obtained from experiments conducted on male and female Melandrium album to determine effect of poisons on isolated tissues and growth organs. Submitted by Academician A. A. Rikhter, 25 Feb 1947.			
FDB		53T54		FDB		53T55	
USSR/Medicine - Chlorophyll Medicine - Metals		Aug 1947		USSR/Medicine - Ears Medicine - Hearing		Aug 1947	
"Effect of Copper on the Production of Chlorophyll," M. M. Okuntsov, Lab of Photosynthesis, Acad Sci USSR; Tomsk State U imeni V. V. Kuybyshev, 2 pp				"Subsensory Reflexes in Ear Irritations," G. V. Gershuni, I. I. Korotkin, Lab Physiol Sensory Organs, Physiol Inst imeni I. P. Pavlov, Acad Sci USSR, 4 pp			
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4				"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4			
Studies show that copper does not have any accelerating effect on formation of chlorophyll, but does have a stabilizing effect, its presence retarding the process of disintegration of chlorophyll. Submitted by Academician A. A. Rikhter, 24 Feb 1947.				Describes experiments conducted to determine whether it is possible to have conditional-reflex reactions when conditional signal lies lower than sensory threshold and irritation is not perceived by subject. States that results could not be confirmed. Submitted by Academician L. A. Orbeli, 13 Feb 1947.			
FDB		53T56		FDB		53T57	
USSR/Medicine - Insects Medicine - Fossils		Aug 1947		USSR/Medicine - Plants Medicine - Photosynthesis		Sep 1947	
"Insect Fossils From the Vorkut Coal Basin," B. B. Rodendorf, Paleontological Inst, Acad Sci USSR, 2 1/2 pp				"The Occurrence of Photoperiodic Reaction and Cases of Its Significance to Adjustment," A. Potapenko, 3 pp			
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4				"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9			
Describes fossil insects obtained from Vorkut coal basin submitted to author in 1946. Some 20 different forms included members of five orders of insects: Palaeoptera, Blattoidea, Orthopteroidea, Homoptera. Submitted by Academician I. I. Shmal'gauzen, 11 Feb 1947.				Describes experiments conducted to determine photoperiodic consequences to plants with short growing periods and with long growing periods. Shows that photoperiodic reaction in cases of adjustment is frequently independent of length of day. Submitted by Academician N. A. Maksimov, 7 Apr 1947.			
FDB		53T58		FDB		53T59	
USSR/Medicine - Reproduction Medicine - Genetics		Sep 1947		USSR/Medicine - Lungs Medicine - Pressure		Nov/Dec 1947	
"Some Regularities in the Propagation of Adalia Bipunctata L.," Ya. Ya. Lus, Inst Evolutionary Morphol imeni A. N. Severtsov, Acad Sci USSR, 4 pp				"Biodynamics of the Lungs," Ya. G. Uzhanskiy, A. F. Levtova, Experimental Pathol Sec, Leningrad TB Inst, 4 1/2 pp			
"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9				"Arkhir Patolog" No 6			
Discusses nonmale line of Adalia population, a phenomenon first noticed in 1936. Presents further data on phenomenon, obtained through studies. Submitted by Academician I. I. Shmal'gauzen, 6 Mar 1947.				Lung pressure in animals rises when pressure in a barometric chamber rises to a point equivalent to 5,000 m. Increased atmospheric pressure distends lungs thus having an adverse effect on lung muscle tonus. Submitted, 7 Dec 1947. Deputy of Experimental Pathology Section: Prof L. R. Perel'man. Director of TB Institute: Prof L. A. Emdin.			
FDB		53T60		LC		53T61	

RESTRICTED	FDB Periodical Abstracts Scientific No 53	RESTRICTED	
USSR/Medicine - Nervous System Medicine - Pathology	Nov/Dec 1947	USSR/Medicine - Malaria Medicine - Hearing	Nov/Dec 1947
<p>"Neural Regulation of the Pathological Changes in Organs," Prof S. I. Frankshteyn, Inst Genl and Experimental Pathol, Acad Med Sci USSR, 5½ pp</p> <p>"Arkhir Patolog" No 6</p> <p>Part two of a series. Records studies on the motor reactions on injuries to extremities, during severing of trunk in region of "chetverokholm" (shoulders). Particular attention paid to character of motor reactions when central nervous system was severed at other levels. Submitted, 20 Dec 1947.</p> <p>LC 53T62</p>		<p>"Histological Changes in the Aural Organs Due to Malaria," G. P. Khutsishvili, Chair of Pathol Anat, Tbilisi Med Inst, 5 pp</p> <p>"Arkhir Patolog" No 6</p> <p>Malaria ranks third as a social disease, after TB and syphilis. Article reports results of a four-year period of experiments conducted on changes occurring in cells of aural organs due to malaria. Methods of study developed at Histological Laboratory of Leningrad Scientific and Practical Institute for Otorhinolaryngology, under the cognizance of M. K. Dal'.</p> <p>LC 53T63</p>	
USSR/Medicine - Heart, Disease Medicine - Veins	Nov/Dec 1947	USSR/Medicine - Malaria (Contd)	Nov/Dec 1947
<p>"Microscopic Structure of Venae Cordis in Various Ages During Cardiopathy," Lt Col B. V. Kulyabko (Med), Leningrad, Chair of Pathol Anat, Mil Med Acad imeni Kirov, 9½ pp</p> <p>"Arkhir Patolog" No 6</p> <p>Part two of a series on heart structure during cardiopathy. Data based on studies of 48 cases, various ages, including the seriously ill and those who died. Four of the venae cordis studied: 1) the v. cordis magna, 2) the v. cordis media, 3) the v. posterior ventriculi sinistri cordis, and 4) the v. cordis parva.</p> <p>LC 53T64</p>		<p>Data reveal that histological changes occurring in aural organs due to malaria are less noticeable than those caused by other infectious diseases, including scarlet fever, diphtheria, and exanthematous typhus. Submitted, 15 Feb 1947. Deputy of Chair: Prof V. K. Zhgenti, Honorary Promoter of Science.</p> <p>LC 53T63</p>	
USSR/Medicine - Heart, Disease (Contd)	Nov/Dec 1947	USSR/Medicine - Anatomy Medicine - Bibliography	Nov/Dec 1947
<p>Submitted, 1 Nov 1947. Chief of Chair of Pathological Anatomy: Lt Gen N. N. Anichkov (Med), Academician, Mil, Med Acad imeni Kirov.</p> <p>LC 53T64</p>		<p>"Twenty-Five Years of Pathological Anatomy in the Georgian SSR," Prof V. K. Zhgenti, Honorary Promoter of Science, Tbilisi, 5 pp</p> <p>"Arkhir Patolog" No 6</p> <p>Presents briefly important monographs and doctor's theses published in past 25 years. States that 200 works on pathological anatomy have been published; majority released by Pathoanatomical Institute of Medical Faculties, Tbilisi University. In 1933 this institute brought into Tbilisi Medical Institute. Submitted, 23 May 1947.</p> <p>LC 53T65</p>	
USSR/Medicine - Anatomy Medicine - Pathology	Nov/Dec 1947	USSR/Medicine - Parotid Gland Medicine - Nervous System	Nov/Dec 1947
<p>"Thirty Years of Soviet Pathological Anatomy," A. I. Abrikosov, Academician, 12 pp</p> <p>"Arkhir Patolog" No 6</p> <p>Brief historical account of development of Soviet pathological anatomy during 1917-1947. Present article summary of one published in Jubilee Symposium of Academy of Medical Sciences. Discusses various subjects, including effects of radiation on organs, pathological anatomy of vegetative nervous system, etc.</p> <p>LC 53T66</p>		<p>"Question of the Chemical Transmission of Impulses in the Central Nervous System," S. L. Levin, Leningrad Neurosurgical Inst; Clinic of Nervous Diseases, First Leningrad Med Inst imeni Pavlov, 6 pp</p> <p>"Arkhir Patolog" No 6</p> <p>Devotes particular attention to parotid gland in man. Observes that in serious traumatic conditions, or swelling of parotid gland, impulses from the brain prevented from reaching salivary glands. Several cases studied to determine effect of denervation of salivary glands. Submitted, 10 Dec 1947. Director</p> <p>LC 53T67</p>	

RESTRICTED	FDB Periodical Abstracts Scientific No 53	RESTRICTED	
USSR/Medicine - Shock Medicine - Tissue, Respiration	Nov/Dec 1947	USSR/Medicine - Parotid Gland (Contd) Nov/Dec 1947	
"The Question of the Amount of Oxygen Consumed by Tissues During the Early Stages of Shock," A. M. Charnyy, P. Ye. Syrkina, G. Ye. Syrkina, S. E. Krasovitskaya, Lab Pathol Physiol, Cent Inst for Improvement of Physicians, 6 pp		of Leningrad Neurosurgical Institute: A. L. Pole- nov, deceased, Active Member, Academy of Medical Sciences. Deputy of Clinic of Nervous Diseases: Prof Ye. L. Venderovich, Honorary Promoter of Sci- ence.	
"Arkhiy Patolog" No 6			
Studies conducted to determine three main points: 1) dynamics of oxygen and carbonic acid in subcutaneous gas bubbles in normal animals, 2) dynamics of oxygen and carbonic acid during early stages of shock, and 3) amount of oxygen consumed by tissues during early			
LC	53T68	LC	53T67
USSR/Medicine - Shock (Contd)	Nov/Dec 1947	USSR/Medicine - Helminthology Medicine - Nematodes	Feb 1947
stages of shock, following application of oxygen-poor mixture. Speed of diffusion of gas bubbles injected subcutaneously determined during various stages of shock. Submitted, 23 Nov 1947. Deputy of Laboratory: Prof A. M. Charnyy. Director of Institute: V. P. Lebedeva.		"A Study of the Development Cycle of Echinuria Uncinata Rud., 1819, a Nematode Parasitic in the Stomach of Natatores," N. P. Romanova, Helminthological Lab, Moscow Zool Garden, 2 pp	
		"CR Acad Sci" Vol LV, No 4	
		Research report on life cycle of Echinuria uncinata, parasite infesting ducks, geese, and swans. Parasite gains entrance into body of daphniae, especially Daphnia pulex and D. magna, and infestation of natatores results from ingestion of infested daphniae. In alimentary canal, Echinuria larvae	
LC	53T68	FDB	53T69
USSR/Medicine - Botany Medicine - Hydrography	Feb 1947	USSR/Medicine - Helminthology (Contd)	Feb 1947
"Ecology of Middle- and Trans-Ural Elodea Canadensis Rich. and the Water Reservoirs It Inhabits," N. K. Deksbakh, 4 pp		leave daphniae and penetrate proventriculus of natatore, where they become sexually matured after 51 days. Submitted by K. I. Skryabin, 12 Aug 1946.	
"CR Acad Sci" Vol LV, No 4			
Analyzes occurrence and ecological significance of Elodea in area under discussion. Elodea indicates high calcium content of water, and is important because of its relation to fish industry in waters where found. Submitted by V. N. Sukachev, 17 Aug 1946.			
FDB	53T70	FDB	53T69
USSR/Medicine - Medicine, Military Medicine - History	Nov 1947	USSR/Medicine - Medicine, Military Medicine - Therapy	Nov 1947
"The Thirtieth Anniversary of Soviet Military Medicine," Col I. D. Makarov (Med); Col Ya. I. Akodus (Med), 134 pp		"Some Questions of Therapy and Organization of Medical Officers During Peace," Col A. F. Kobzev (Med), 34 pp	
"Voyen-Medits Zhurnal" No 11		"Voyen-Medits Zhurnal" No 11	
Briefly traces history of military medicine and outlines some of contemporary tasks and problems. For 30 years military might of Soviet Union has been increasing. Military medicine forced to keep pace with many new developments.		Describes briefly changes made in organization and methods of treatment by medical officers, for service during peace. Outlines staffs necessary for clinical establishments, hospitals, etc.	
LC	53T71	LC	53T72

RESTRICTED	FDB Periodical Abstracts Scientific No 53	RESTRICTED	
USSR/Medicine - Medicine, Military Medicine - Fatigue	Nov 1947	USSR/Medicine - Training Medicine - Biography	Nov 1947
<p>"National Physiological Thought on Questions of Fatigue," Prof D. Ye. Rozenblyum, Col (Med), 10½ pp</p> <p>"Voyen-Medits Zhurnal" No 11</p> <p>Briefly discusses successful battle Soviet Union has been waging against fatigue. Discusses basic reasons for fatigue and methods for combating it in military personnel. Describes important experiments leading to solution of problem. Research continues.</p>		<p>"S. P. Botkin, Founder and Organizer of the School of National Scientific Clinical Medicine," Lt Col V. B. Farber (Med), 12 pp</p> <p>"Voyen-Medits Zhurnal" No 11</p> <p>Historical biography of Botkin, founder of Russian school for clinical therapy. Presents data for 19th century.</p>	
LC	53T73	LC	53T74
USSR/Medicine - Medicine, Military Medicine - Training	Nov 1947	USSR/Medicine - Medicine, Military Medicine - Rest	Nov 1947
<p>"Military Medical Academy imeni S. M. Kirov," Prof D. N. Lukashevich, Maj Gen (Med); Docent L. Ya. Skorokhodov, Lt Col (Med), 8 pp</p> <p>"Voyen-Medits Zhurnal" No 11</p> <p>Briefly describes history and functions of Military Medical Academy imeni Kirov, factor in rapid improvement of military medicine. Soviet military medicine paralleled general development of nation in rise from agricultural economy to become one of great industrial powers of world.</p>		<p>"Sanatoriums and Rest Homes for Soviet Soldiers on the Eve of the Thirtieth Anniversary of the Great October Revolution," Col T. I. Maslinkovskiy (Med), 6 pp</p> <p>"Voyen-Medits Zhurnal" No 11</p> <p>Briefly discusses functions, duties, and future plans for rehabilitation service, a child of the October Revolution. In 1913 there were 2,000 rest homes; but, after World War II there were some 273,000 rest homes and establishments, more than 2,300 of which are in sites with mineral springs.</p>	
LC	53T75	LC	53T76
USSR/Medicine - Medicine, Military Medicine - Bibliography	Nov 1947	USSR/Medicine - Nervous System Medicine - Nerves	Dec 1947
<p>"Bibliography of Military Medicine in World War II," Col I. D. Makarov (Med), 4 pp</p> <p>"Voyen-Medits Zhurnal" No 11</p> <p>Continuation of a list of articles and books published on various aspects of military medicine during World War II. Discusses various facts concerning cranial and encephalic wounds, also spinal injuries.</p>		<p>"The One Way Passage of Impulses in an Altered (Al'terirovannom) Nerve," M. S. Averbakh, 2 pp</p> <p>"Vest Leningrad Universitet" No 12</p> <p>Explains Verigo's phenomenon: when a short portion of a nerve is polarized, only those impulses which originate at anode are able to pass through; impulses originating at cathode are not conducted. This article is author's candidate thesis.</p>	
LC	53T77	LC	53T78
USSR/Medicine - Histology Medicine - Anatomy	Dec 1947	USSR/Medicine - Psychology	Dec 1947
<p>"Histological School of the Petersburg-Leningrad University," Prof D. I. Deyneka, 10½ pp</p> <p>"Vest Leningrad Universitet" No 12</p> <p>In Nov 1947 Chair of Anatomy and Histology of Petersburg-Petrograd-Leningrad University, commemorated 25th anniversary of death of famous Russian histologist, Prof Aleksander Stanislavovich Dogel'. Briefly gives history of chair and mentions some of members of this department.</p>		<p>"First Scientific Psychological Conference of USSR Universities," Prof G. Z. Roginskii, 2 pp</p> <p>"Vest Leningrad Universitet" No 12</p> <p>Brief account of theses submitted for judgment to 1947 conference, held from 1-5 Oct 1947 and attended by 45 scientific psychologists from 30 cities. During five days some 28 theses were read. Readings attracted audiences of 500, and a total of 4,500 people visited the five-day conference.</p>	
LC	53T79	LC	53T80

RESTRICTED	FDB Periodical Abstracts Scientific No 53	RESTRICTED
USSR/Medicine - Microscopy Medicine - Biology Dec 1947 "Review of 'Microscopic Technique' by Prof G. I. Roskin," Prof V. A. Dogel', Corr Mem, Acad Sci USSR "Vest Leningrad Universitet" No 12 Praises Roskin for excellent treatment of complex subject, microscopic technique, and calls it one of greatest contributions made to biologists. Aid to students of history, zoology, and novices in various fields of biology. Prof N. A. Naumov, Corresponding Member, Academy of Sciences, USSR, also comments on Roskin's book.	USSR/Metals Steel, High-Speed Steel, Chromium Feb 1947 "High Chrome-Content High-Speed Steel," G. A. Gabay, 14½ pp "Trudy Tsent Orden Lenin Nauch Issled Inst" No 2 Discusses various uses of three types of high-speed steel RF-1, EI-262, and EI-184, suggesting tools for which they may be used. F. Ya. Iokheles and S. Ya. Tsekhanskaya assisted in studies.	
LC 53T81 USSR/Metals Steel, High-Speed Carburization Feb 1947 "Nitrocementation of High-Speed Steel," A. A. Yurgenson, 6 pp "Trudy Tsent Orden Lenin Nauch Issled Inst" No 2 Process consists of simultaneous treatment of steel surface with nitrogen and carbon. Two methods: 1) with high temperatures nitrocementation produces construction grade steel, 2) with low temperature nitrocementation produces instrument grade steel. Briefly describes equipment and procedure.	LC 53T82 USSR/Metals Metallography Polarography Feb 1947 "Metallographic Studies in Polarized Light," V. A. Izyumov, 2½ pp "Trudy Tsent Orden Lenin Nauch Issled Inst" No 2 Describes micrographic method of studying metals with aid of polarized light. Old method but not widely used in Soviet metallurgical techniques. To stimulate interest in this method editors publish methods and advantages in use of a polarized light study of metals.	
LC 53T83 USSR/Metals Aluminum Alloys - Properties Crystallization Feb 1947 "Study of the Crystallization and Mechanical Properties of Secondary Silumin Mark AL-4 Upon Additions of Nickel, Phosphorus, and Boron," A. I. Patsiornykh, 5½ pp "Trudy Tsent Orden Lenin Nauch Issled Instit" No 2 Discusses general conditions, objects, and methods, and results of experiments (effects of nickel, phosphorus, and boron). Nickel and phosphorous additions improve structure of alloy and mechanical properties.	LC 53T84 USSR/Minerals Crystallography Quartz Aug 1947 "Frequency of Analogous and Unlike Speeds for Peripheral Quartz," G.G. Lemmleyn, Inst of Crystallography, Acad Sci USSR, 4 pp "Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4 Gives various methods used for the determination of twinning speed of quartz crystals. Brief discussion of study of twin crystals. Submitted by Academician D. S. Belyankin, 15 Feb 1947.	
LC 53T85 USSR/Nuclear Physics - Impact Electronic Nuclear Physics - Ionization Feb 1947 "Ionization of Mercury by Electron Impact," B. Yavorskiy, 4 pp "CR Acad Sci" Vol LV, No 4 Symposium of previous work on subject, leading to calculation of effective cross section for ionization of mercury vapor by electron impact. Total cross section of atoms in one cc computed, recalculated for density at a pressure of one mm Hg and 0° C. Work cited includes papers by Massey, Mohr, Bethe, Houston, Slater, Eckart, Sommerfeld, Watson, Smith, Nottingham, and the author.	FDB 53T86 USSR/Petroleum Industry Oil Wells Filtration Aug 1947 "Some Frequent Solutions of Problems of Filtration," Yu. P. Vinogradov, P. P. Kufarev, Physical Engin Inst, Tomsk State U imeni V. V. Kuybyshev, 3½ pp "Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4 Discusses specific cases of formulas for calculating filtration in oil bores applied to filtration problems of wells. Submitted by Academician S. L. Sobolev, 23 Feb 1947.	
FDB 53T87	FDB 53T88	

FDB Periodical Abstracts Scientific No 53

<p>RECEIVED</p> <p>USSR/Physics Combustion Flame</p> <p>Aug 1947</p> <p>"Conditions Giving Rise to Instability in Normal Combustion," Ya. B. Zel'dovich, Corr Mem, Acad Sci; A. I. Rozlovskiy, Combustion Sec, Inst Phys Chem, Acad Sci USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4</p> <p>Landau states that size of fuel supply affects viscosity and thus stability of combustion. Describes experiments conducted to determine reason for phenomenon known as autoturbulency of flame and results obtained. Submitted, 2 Jun 1947.</p> <p>FDB 53T89</p>	<p>RECEIVED</p> <p>USSR/Physics Sound Waves Lenses</p> <p>Aug 1947</p> <p>"Transparency of Homogeneous Sound Lenses," L. D. Rozenberg, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4</p> <p>In 1945 Ernst published an article on calculation for transparency of lenses, but due to an error, data presented was worthless. In this process, sound waves are focused by means of concave lenses. It is difficult to calculate passage of sound waves through lenses. Submits several formulas for calculating</p> <p>FDB 53T90</p>
<p>USSR/Physics Luminescent Materials Polarization</p> <p>Aug 1947</p> <p>"Polarization of Photoluminescence and the Symmetry of the Molecule," P. P. Feofilov, Luminescence Lab, State Optical Inst, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 4</p> <p>Presents in tabular form polarization of luminescence of benzole derivatives, important because of increased use of organic dyes. Analysis of molecule structure of fluorescent dyes shows that majority of complex molecules can be isolated and divided in several ways. Submitted by Academician S. I. Vavilov, 30 Mar 1947.</p> <p>FDB 53T91</p>	<p>USSR/Physics (Contd)</p> <p>Aug 1947</p> <p>sound wave amplitude reaching lenses. Submitted by Academician S. I. Vavilov, 25 Jan 1945.</p> <p>FDB 53T90</p>
<p>USSR/Physics Impact Mathematics, Applied</p> <p>Oct 1947</p> <p>"Impact on a Hard Body Situated on the Surface of a Compressible Liquid," L. A. Galin, Inst of Mechanics, Acad Sci USSR, 4 pp</p> <p>"Priklad Matematika i Mekhanika" Vol XII, No 5</p> <p>Gives exact solution for problem of joint movement of heavy body and its resilient surrounding agent after a blow. Solution obtained for initial period of blow of given duration.</p> <p>FDB 53T92</p>	<p>USSR/Physics Magnetism Ions</p> <p>Sep 1947</p> <p>"Determining the Magnetic and Mechanical Moments in the Atoms of Solid Bodies," Ye. Zavoyskiy, Kazan State U; Kazan Br, Acad Sci USSR, 2 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9</p> <p>Magnetic spin resonance in solid and liquid bodies permits exact determination of Land's factor for magnetic ions, but does not permit simultaneous determination of magnetic and mechanical moments. Proves resonance method can be utilized with high degree of accuracy to determine spin as well as</p> <p>FDB 53T93</p>
<p>USSR/Physics Fluorescence Damping</p> <p>Sep 1947</p> <p>"Concentrated Depolarization of Fluorescence in Damping," M. D. Galanin, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 4 pp</p> <p>"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9</p> <p>Author digresses from theory submitted by S. I. Vavilov and on basis of resonance transfer of operating energy, develops formula to determine rules of damping of parallel and perpendicular components of fluorescence intensity for a "c" degree of concentration. Submitted by Academician S. I. Vavilov, 23 Jul 1947.</p> <p>FDB 53T94</p>	<p>USSR/Physics (Contd)</p> <p>Sep 1947</p> <p>magnetic moment of an ion. Submitted by Academician L. D. Landau, 26 Apr 1947.</p> <p>FDB 53T93</p>

FDB Periodical Abstracts Scientific No 53

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USSR/Physics - Development

Dec 1947

"Soviet Physics and Prerevolutionary Physics in Russia," A. F. Ioffe, 16 pp

"Uspekhi Fiz Nauk" Vol XXXIII, No 4

Compares development of physics under Tsars and Soviets. Mentions another article discussing progress of Soviet physics, to be published in 1948.

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53T95

USSR/Physics

Superconductivity
Viscosity

Dec 1947

"The Development of the Sciences of Ultraviscosity and Superconductance in the Soviet Union," E. L. Andronikashvili, K. A. Tumanov, 63 pp

"Uspekhi Fiz Nauk" Vol XXXIII, No 4

Andronikashvili discusses ultraviscosity in first part, describing properties of Helium-II, discovery of ultraviscosity, reversibility of some thermohydrodynamic processes of He-II and quantum theory of ultraviscosity. Tumanov describes condition known as superconductance, including superconductance of thin

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53T97

USSR/Physics (Contd)

Dec 1947

films and penetration depth of material being conducted, and changes of limits of superconductivity due to compression or stretching.

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53T97

USSR/Physics

X-Ray Analysis
X-Ray Spectra

Dec 1947

"X-Ray Structure Analysis and X-Ray Spectroscopy for Thirty Years," S. T. Konobeyevskiy, 16 pp

"Uspekhi Fiz Nauk" Vol XXXIII, No 4

Written in honor of thirtieth year of Soviet physics. Briefly describes advances in fields of X-ray analyses of structure as well as X-ray spectroscopy. Mentions names of scientists responsible for greatest developments in this field including: Yu. V. Vul'f on diffraction of X-rays, G. I. Petronko, G. S. Zhdanov, and others.

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53T96

List of Abbreviations
used in FDB Periodical Abstracts

ID	Intelligence Division Library
AMC	Air Documents Division, Air Materiel Command
ST	Reference Division, State Department
BM	Bureau of Mines, Dept of Interior
BS	National Bureau of Standards
SI	Smithsonian Institution
LC	Library of Congress
FDB	Foreign Documents Branch, CIA
COM	Department of Commerce
AF	A-2 Library, USAF

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